

ABSTRACT OF THE DISCLOSURE

A reflective type projection optical system ~~has good reflection characteristics with X-rays and can correct aberrations well while controlling the size of reflective mirrors.~~ The projection optical system includes six reflective mirrors and forms a reduced image of a first plane onto a second plane. The system includes a first reflective image forming optical system (G1) for forming an intermediate image of the first plane and a second reflective image forming optical system (G2) for forming an image of the intermediate image ~~on~~ the second plane. The first reflective image forming optical system has, in order of an incidence of light from the side of the first plane, a first reflective mirror (M1), an aperture stop (AS), a second reflective mirror (M2), a third reflective mirror (M3), and a fourth reflective mirror (M4). The second reflective image forming optical system has, in order of the incidence of the light from the side of the first plane, a fifth reflective mirror (M5) and a sixth reflective mirror (M6).